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AUTHOR Yagi, Kan; And Others
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ABSTRACT

The Portland (Oregon) Public Schools 1985-86 Chapter 1 Project included 68 public and nonpublic schools at elementary and secondary levels. About 7,500 students received supplementary support in basic skills, reading and/or math. The project included three programs: HOSTS, Prescription Learning, and Garden Variety or individual school-developed programs. Due to students' needs and high mobility, the instruction was individualized or given in small groups. To evaluate Chapter 1 student achievement, nationally standardized tests were used for grades 1 and 2, and Portland Achievement Levels Tests were used for grades 3 through 12. Results showed satisfactory progress of the students overall in reading and math. The average gains for each Chapter 1 school program continued to be equal to or larger than the average gains of the district for about 70 percent or more of the schools. Separate studies comparing student achievement gains in the three different types of instructional programs were discontinued because no significant differences were found in earlier studies. Ongoing research is now focused on the total school experiences of Chapter 1 students. It is postulated that there is a limited number of critical elements or variables in educational programs which account for most student achievement and that the extent of the effect is related to the extent the element or variable is present or absent in the students' learning environment. (JAZ)

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1985-86 EVALUATION REPORT

ECIA, CHAPTER I Disadvantaged Child Project

IN THE PORTLAND PUBLIC SCHOOLS

Research and Evaluation Dept.
Portland Public Schools
Portland, Oregon
Walter E. Hathaway, Director

Kan Yagi
Margaret Dey
Stephanie Mitchell
David Leitner
James Kushmuk

November, 1986

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ECIA, CHAPTER I
DISADVANTAGED CHILD PROJECT
YEAR-END EVALUATION REPORT

1985-86

Kan Yagi
Margaret Dey
Stephanie Mitchell
David Leitner
James Kushmuk

Research and Evaluation Department
Portland Public Schools
Portland, Oregon

ECIA, Chapter I
Administrative Summary

The Portland Public Schools 1985-86 Chapter I project included 6 public high schools, 49 public elementary schools, and 13 nonpublic elementary schools. About 7,500 students received supplementary support in basic skills, reading and/or math, in the 68 schools. The total budget was about $4.3 million. The project suggests that costs should be about $550 per student; actual costs averaged slightly more when the total budget was considered.

To a large extent, the Portland project consisted of 68 quite unique projects, even though many of them used commercial systems either as part or all of their Chapter I program. Among the public schools, there were 17 schools that used the Prescription Learning System, 11 that used HOSTS, 3 used other systems, and the remaining 24 used systems of their own design or largely unique systems. Non public schools with their small enrollments of Chapter I students also designed their own programs.

Due to student needs and high mobility, Chapter I instruction is highly individualized or in small groups. The average stability index for the 49 Chapter I public elementary and middle schools was a little over 71 percent; the average among non-Chapter I schools was 85 percent.

The 1985-86 achievement test results for public school Chapter I students in Grades three to eight in reading and math showed RIT score gains that were consistently larger than those of the total District. Wide variations in gains were observed among schools and grades. Over the last three years the average gains of about 70-75 percent of the Chapter I school programs are larger than District averages. Achievement records for the last eight years show that, across the grades, the gains of Chapter I students for 1985-86 were as large or larger than the average gains of project students of the previous years. Achievement data for Chapter I students in grades one and two were collected using tests that were different from those used in grades three to eight. These results for 1985-86 appeared quite satisfactory. Data for Chapter I students in nonpublic schools were collected spring to spring rather than fall to spring. Results for these students were also quite satisfactory.

From 1982-83 to 1984-85, separate studies were conducted annually of schools using the HOSTS program or the Prescription Learning System with their Chapter I students. Results of these studies were comparable from year to year and there were no major programmatic changes expected of either instructional program, so these studies were discontinued for 1985-86. More attention was devoted to the study of effective classroom practices.

Nationally, studies of effective practices have largely been correlated, and the lack of a theoretical framework in these studies has been a major weakness in demonstrating causal relationships. Linkages have been inferential rather than predictive. The research plan currently formulated for the Portland program depends on the prediction of outcomes based on theoretical formulations of causal relationships. The ability to predict outcomes is a demonstration of the causal relationships among independent and dependent variables. Efforts this past year were devoted to the formulation of the research strategy and to describing and measuring critical variables. The challenge now is to define the most salient variables in terms that will permit their objective measurement.

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1. INTRODUCTION

The PPS Chapter I project for 1985-86 included 6 public high schools, 40 public elementary and middle schools, and 13 nonpublic elementary schools. The nonpublic Chapter I schools are located within the geographic areas served by Chapter I public schools and serve only those qualifying students who reside within the Chapter I public school service area. About 7,500 students were served by the 68 Chapter I schools. All but two public elementary schools had Chapter I programs for both reading and math. Based on the students in Grades 3 to 8 where reading and math are taught as more discrete subjects, each year about 30 to 35 percent of the students are enrolled in reading only, about 20 to 25 percent in math only, and the remaining 45 percent or so are enrolled in both subjects.

2. PROGRAM DESCRIPTIONS AND VARIABLES

Salient features of Chapter I programs in each school are expressed in coded form to facilitate visual comparisons and contrasts between and among school programs. While some uniquenesses of programs captured by narrative descriptions are sacrificed, research gains are realized. The coding permits statistical analysis to explore relationships of program variables to student achievement in reading and math.

In Table 1, the variables are identified and described, and the coding for them in terms of percents, actual counts, or identification code number is indicated. Table 2 shows the characteristics of the 49 public elementary and middle school programs according to the selected variables.[1] For most variables, there was sufficient variation among schools to indicate their uniqueness and the complexity of the Portland Chapter I project. To a large extent the Portland project consists of 68 quite independent projects. Among the public school programs there were 17 elementary schools that implemented the Prescription Learning Program, 11 implemented HOSTS (two had both Prescription Learning and HOSTS) and the remaining 27, including high schools, were programs designed by the schools or largely unique instructional systems. Most commercial programs are quite expensive and not well adapted to small enrollments, so the private schools, all of which have small Chapter I enrollments, design their own programs.

Most of the 49 public elementary school Chapter I programs described first required that students be taken out of regular non-basic skills classes and given supplementary instruction in separate classrooms or laboratories. This instruction of 30 to 40 minutes per day was usually highly individualized or in small groups and presented by teachers, aides, or usually both. The curriculum was usually coordinated with the regular classroom curriculum either through the work between teachers matching their curriculums or by the Chapter I teacher matching with achievement test goals, or both. Difficulty in appropriately matching instruction with individual student achievement is compounded by the mobility of Chapter I students. The average mobility for Chapter I elementary schools is about double that of non-Chapter I schools.

At the high school level, students are selected and enrolled in Chapter I classes which are administered and conducted like other regular high school classes. A distinction, however, is that students may receive credit for the

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[1]Much of the information for the 6 high schools and 13 nonpublic schools programs is either not available, not applicable, or cannot be interpreted in the same manner as for the other 49 schools; therefore, not all descriptive information for these 19 programs is included. Currently, none of these school programs are included in special studies.

classes as elective classes but not as required classes - a stipulation that Chapter I can supplement, but not supplant, regular instruction. High schools are quite unlike elementary schools and very few program descriptors apply; therfore, information for the reading and math programs is not included.

Nonpublic school Chapter I programs are generally small and quite unlike those of public schools, so descriptions of their reading and math programs are not included. Federal regulations stated that Chapter I instruction could not be provided at the non-public schools as in previous years; therefore, arrangements were made to provide information in public schools or other qualifying locations. All sites were adequately supplied and equipped to provide good quality instruction.

Budget allocations for some schools are small so arrangements are made for some teachers to serve more than one school. Some allocations are not sufficient to provide daily instruction if at least 30 minutes so scheduled have to be arranged to accommodate to allocations, sites, and teachers. Among the 14 schools, students in about an equal number of schools receive instruction 2, 3, 4, or 5 times per week, 30 mintues per session. Thus, students that meet twice a week receive an hour of Chapter I instruction each week while those meeting more often receive up to 2.5 hours per week. Instructional groups usually range from 2 to 5 and frequently include students in two or more grades.

TABLE 1
Codes for Table 2: Characteristics of
Chapter I School Programs

1. Total: School enrollment reported in PPS 1985 Enrollment Report (The count is taken October 1, 1985).

2. Stability: Stability of students in a school year is expressed as the percent of all students enrolled during the year that were enrolled in the same school at the beginning and the end of the year. The data are taken from, Achievement Profiles, August, 1985.

3. No. Active Chap I: Estimated number of students reported by the school identified as having received Chapter I services at any one time during the year. The data are taken from the active file of the Student Data Base as of June, 1986. This is an unduplicated count: students are counted once whether they receive Chapter I services in reading and/or math.

4. Percent Chap I: Estimated percent of students who receive Chapter I services at any one time during the school year. This is an unduplicated count. It is determined by dividing the N Chapter I (Item 3) by the school enrollment.

5. Expendi$: Actual funds spent to operate the Chapter I program at the school.

6. Cost per/S: The amount of funds expended per student. It is calculated by dividing the Expenditures (Item 5) by the N Chapter I (Item 3). It is important to point out that the No. Active Chapter I (Item 3) is an unduplicated count and strict comparisons between schools should not be made since: a) the percent of students who receive both reading and math as opposed to just reading or just math is not consistent across schools, and b) the amount of time that students spend in Chapter I is not consistent across programs. Both of these can effect the calculation of the cost per student.

7. No. Read: The total number of students who received Chapter I reading services during the year.

8. No. Math: The total number of students who received Chapter I math services during the year.

9. Grade: Grades for which the description of the reading program applies.

10. Type: Type of Chapter I program as defined by State guidelines where 1 = in-class, 2 = pull-out, 3 = laboratory, 4 = regular classroom and pullout, 5 = regular classroom and laboratory, 6= pullout and laboratory, and 7 = other.

11. Chap I Min/Wk: The number of minutes per/week that most Chapter I students received Chapter I reading services.

12. Regular Min/Wk: The number of minutes per week that most Chapter I students received reading in the regular classroom.

13. Computer: Indicates if a computer was used in the Chapter I reading project where 1 = used for managing instruction, 2 = used for instruction, 3 = used for both instruction and instructional management, and 4 = not used.

14. T/S Ratio: Teacher (Includes teachers, aides and tutors) to student ratio in Chapter I program where the number indicated is the number of students per teacher. Where schools reported a range, the highest number was used.

15. Coordination of Instruction:

a. Inst Pl: The three numbers refer to how often Chapter I staff interacted during the year with the regular classroom teachers about instructional planning for each of formal meetings, informal meetings or written documents, respectively. The numbers mean; 0 = never, 1 = once, 2 = monthly, and 3 = weekly.

b. Stud Prog: The three numbers refer to how often Chapter I staff interacted during the year with the regular classroom teachers about student progress for each of formal meetings, informal meetings, or written documents, respectively. The numbers mean: 0 = never, 1 = once, 2 = monthly, and 3 = weekly.

16-22. The next seven items refer to the Chapter I Math program i which the codes are the same as for the corresponding items in items 9-15.

TABLE 2

Characteristics of Chapter I School Programs

SCHOOL	TOTAL	PUBLIC SCHOOLS STABILITY	NO. ACTIVE CHAP I	PERCENT CHAP I	EXPENDI	COST $ PER/S	NO. READ	NO. MATH
131	350	71.3	56	16%	$41,152	$735	48	35
134	237	67.1	85	36%	$34,876	$410	102	9
232	462	56.5	104	23%	$57,617	$554	96	58
138	233	58.6	138	59%	$58,635	$425	170	129
140	645	75.1	143	22%	$85,728	$599	148	123
141	801	83.3	146	18%	$93,693	$642	139	117
238	237	79.5	32	14%	$19,932	$623	33	5
239	145	58.2	26	18%	$19,881	$765	29	25
143	284	56.8	87	31%	$67,347	$774	103	66
146	410	81.7	77	19%	$36,242	$471	59	51
148	386	68.9	79	20%	$35,319	$447	89	20
150	447	54	119	27%	$74,313	$624	141	54
243	398	77.7	74	19%	$42,923	$580	71	78
248	394	69.4	81	21%	$41,989	$518	80	62
156	552	72.3	199	36%	$96,124	$483	212	69
252	216	68.3	86	40%	$41,291	$480	68	60
255	343	74.9	72	21%	$45,290	$629	79	34
257	708	77.2	218	31%	$73,902	$339	146	220
164	475	41.8	106	22%	$120,511	$1,137	93	52
259	490	85.6	68	14%	$63,678	$936	68	25
166	482	74.2	102	21%	$60,835	$596	97	13
261	595	77.3	147	25%	$67,267	$458	139	135
258	584	64.3	214	37%	$93,992	$439	212	116
168	357	73	48	13%	$33,421	$696	39	45
262	615	68.7	214	35%	$136,082	$636	208	190
263	439	70.7	112	26%	$57,299	$512	103	65
266	314	69.4	81	26%	$69,336	$856	63	54
268	284	63.1	56	20%	$42,999	$768	74	19
270	301	73.5	79	26%	$33,197	$420	84	4
178	587	79	104	18%	$99,232	$954	127	126
180	455	76.8	83	18%	$64,154	$773	101	39
182	370	74	108	29%	$70,712	$655	89	96
275	321	70.4	64	20%	$36,566	$571	63	69
276	482	61.6	130	27%	$64,292	$495	123	37
278	575	84.8	44	8%	$43,252	$983	58	38
279	614	77.9	102	17%	$73,945	$725	88	69
282	520	78.7	47	9%	$36,925	$786	54	0
283	525	83.5	101	19%	$57,475	$569	70	78
184	440	65.6	138	31%	$72,009	$522	137	123
191	337	55.6	74	22%	$46,864	$633	79	56
199	593	85.1	98	17%	$92,430	$943	64	58
284	633	68.4	213	34%	$97,366	$457	122	199
286	339	75.5	54	16%	$43,409	$804	43	37
288	816	75.6	290	36%	$179,765	$620	258	286
290	501	75.8	91	18%	$62,327	$685	113	29
292	208	78.5	48	23%	$23,037	$480	53	9
294	558	63.9	113	20%	$79,768	$706	88	113
296	203	65.2	67	33%	$38,716	$578	67	35
298	219	88.2	56	26%	$18,713	$334	51	21

TABLE 2(cont)

PUBLIC HIGH SCHOOLS

213	1476	69.9	214	14%	$113,222	$529	165	141
217	1764	77.5	248	14%	$133,131	$537	238	152
118	1463	72.3	216	15%	$199,231	$922	229	134
218	1383	61.4	102	7%	$152,971	$1,500	64	82
220	1161	77	56	5%	$85,578	$1,528	48	28
124	1101	64.4	159	14%	$93,487	$588	197	58

PRIVATE SCHOOLS

901	120	NA	26	22%	$11,713	$451	20	6
903	76	NA	15	20%	$4,788	$319	14	5
908	205	NA	19	9%	$14,637	$770	19	0
904	87	NA	32	37%	$14,037	$439	22	19
909	163	NA	6	4%	$1,475	$246	6	0
910	187	NA	12	6%	$5,176	$431	12	12
905	126	NA	24	19%	$6,271	$261	6	0
911	89	NA	11	12%	$3626	$330	0	10
912	60	NA	21	35%	$7,271	$346	5	13
913	132	NA	10	8%	$4,939	$494	1	2
906	110	NA	12	11%	$3,811	$318	6	6
914	174	NA	14	8%	$5,802	$414	8	11
907	222	NA	21	9%	$4,954	$236	20	11

TABLE 2 (cont)

NAME	GRADE	TYPE	READING CHAP I MIN/WK	REGULAR MIN/WK	COM-PUTER	T/S RATIO	COORDINATION of INSTR	PLSTUD	PROG
ABERNETHY	1	2	120	200	4	6	3,3,1		3,3,3
	2-5	2	160	200	1	1	1,3,1		3,3,3
APPLEGATE	1-5	6	150	175	3	8	3,3,3		3,3,3
ARLETA	1-5	2	150	300	4	8	1,3,1		1,3,1
BALL	K-4	1	300	300	4	var			
BEACH	1-5	6	75-150	300	3	5	4,4,4		4,4,4
	2-5	2	75-150	300	1	4			
B/ELIOT	1-2	1,2	150	150	4	5	2,3,3		2,3,3
	3-5	1,6	50-100	150	3	16	2,2,4		2,3,4
BRIDGER	2-5	1	150	150	4	4	2,4,2		3,4,3
BROOKLYN	1-5	2	150	NA	4	4	1,3,2		1,3,3
BUCKMAN	1	1	180	in class	4	3	in class		in class
	1-5	6	70-105	300	3	6	3,4,3		3,4,3
CHAPMAN	1-3	2	120-150	225	4,1	5,1	3,4,3		3,4,3
	3-5	6	150	225	3	8	3,4,3		3,4,3
	1	1	in class	225	4	var	in class		in class
CHIEF JOS	1-5	2	120-180	300-450	4	4	2,4,4		3,4,4
CLARENDON	1	1	in class	300	4	9	in class		in class
	2-4	6	60-120	180-240	3	9	2,4,4		2,4,1
CRESTON	1-5	2	120	150	3	1	1,3,2		1,3,3
	K	1	40	750	4	3	in class		in class
FAUBION	1-5	2	150-225	225	2	10	3,4,3		3,4,3
GEORGE	4	1	in class	225	4	8	in class		in class
	1-8	6	150	225	3	6	1,3,2		1,3,2
GLENHAVEN	5-8	2,4	100	150	4	4	4,3,4		2,3,3
GROUT	1	2	120	300	3	6	2,3,3		2,3,3
	K,2-5	2	120	300	3	1	2,3,3		2,3,3
HOSFORD	6-8	1	in class	200	4	7	in class		in class
HUMBOLT	4-5	5	150	300	3	8	1,3,1		1,3,1
	2-3	4	120	225	4	8	1,3,1		1,3,1
	K-1	1	in class	150	4	NA	in class		in class
IRVINGTON	K-5	2	190	150	2	5	2,4,3		2,4,3
	3	1	40	150	4	5	in class		2,4,3
JAMES JOH	2-5	1	in class	300	2	16	in class		in class
KELLOGG	6-8	6	135-225	225	3	10	3,4,2		3,4,3
KELLY	1-8	2	150	300	4	5	1,4,3		2,4,2
	1-8	1	in class	in class	4	10	in class		in class
	1-8	4,5	150	300	2	6	1,4,3		2,4,2
KENTON	1-5	2	120	250	3	2	2,3,2		2,4,3
KING	3-5	1,2,3	120	225	3	8	3,4,2		3,4,2
LANE	1-2	1	in class	250	4	10	in class		in class
	3-6	6	90	250	3	6	1,4,3		2,4,2
LENT	1-5	2	150	225	3	6	1,4,3		1,4,3
MARYSVILL	k-5	2	120	120	3		3,4,3		3,4,3
MEEK	1-5	6	150	300	3	6	3,4,3		1,4,3
OCKLEY GR	6-8	3	112-225	325	3	7	4,4,3		4,4,3
PENINSULA	1-8	6	150	250	3	7	1,4,3		4,4,3
PORTSMOUT	5-8	2	210	210	3	10	3,3,2		2,3,3
	5-8	1	in class	210	4	8	in class		in class
RICHMOND	1-5	2	120	300	3	1	3,4,4		3,4,4
RIGLER	1-5	2	120-150	200-300	4	7	4,4,4		4,4,4
ROSE CITY	1-5	2	160			6			

TABLE 2 (cont)

SABIN	K-5	2	150			8		
SCOTT	2-5	2	90-120	250	1	1	2,2,2	2,2,3
SELLWOOD	5-8	6	175	175	3	7	2,3,3	2,3,3
SITTON	2,3,5-8	2	125	200	4	4	1,3,3	1,3,3
	1,3,7	1	IN CLASS	200	4	15	in class	in class
SUNNYSIDE	K-1	3	150	150	2	6	3,4,3	3,3,4
	2-5	2	150	200	2	6	2,4,3	3,3,4
TUBMAN	6-8	6	100	100	3	7	4,4,1	1,4,4
	6-8	2	100	100	4	7	4,4,1	4,4,1
VERNON	2-5	6	150	225	2	6	2,3,4	2,3,3
VESTAL	K-7	6	120	NA	3	1	1,3,1	3,4,4
WHITAKER	6-8	6	100-200	200	3	5	2,3,2	2,3,2
WHITMAN	1-3,5	2	150	300	2	4	2,4,2	1,4,3
	K,4,7,8	1	in class	in class	4	13	in class	in class
WILCOX	1-4	2	80	200	3	6	2,2,2	2,3,2
WOODLAWN	3	4	150-200	150-200	4	10	NA	NA
	1-5	2	225	225	4	15	3,4,4	3,4,4
WOODMERE	1-2	2	150	150	4	6	3,4,2	3,4,2
	3-5	6	200	200	3	6	3,4,2	3,4,2
YOUNGSON	1-5	2	120	150	3	1	2,3,3	2,4,3

TABLE 2(cont)
MATH

NAME	GRADE	TYPE	CHAP I MIN/WK	REGULAR MIN/WK	COM-PUTER	T\S RATIO	COORDINATION of INSTR PL	STUD PROG
ABERNETHY	2-5	2	60	200	4	5	1,4,4	3,3,3
ARLETA	3-5	2	120	225-300	4	8	1,3,1	1,3,1
BALL	K-4	1	in class	250	4	var	in class	in class
BEACH	1-5	6	95-150	225-300	3	5	4,4,4	4,4,4
BEACH	2-5	2	75-150	225-300	1	4	4,4,4	4,4,4
BOISE/EL	2-5	1,6	50-100	150	3	16	2,2,4	2,3,4
BRIDGER	2-5	1	per need	300	4	4	2,4,2	3,4,3
BROOKLYN	1-5	2	150	na	4	4	1,3,2	1,3,3
BUCKMAN	4	1	240	na	4	3	in class	in class
BUCKMAN	1-5	6	70	300	3	6	3,4,3	3,4,3
CHAPMAN	3-5	6	150	225	3	8	3,4,3	3,4,3
CHAPMAN	1-3	2	150	225	1,4	5,1	3,4,3	3,4,3
CHAPMAN	4-5	1	in class	225	3	5	in class	in class
CHIEF JOS	4-5	6	90	150-300	2	4	2,4,4	2,4,4
CLARENDON	3-4	6	60	240	3	9	2,4,4	2,4,1
CRESTON	K	1	40	150	4	3	in class	in class
CRESTON	1-5	2	50	150	3	5	1,3,2	1,3,3
FAUBION	1-5	2	150-225	225-300	2	10	3,4,3	3,4,3
GEORGE	1-8	6	150	225	3	6	1,3,2	1,3,2
GLENHAVEN	5-8	2,4	100	150	4	4	3,4,4	2,3,3
GROUT	1	2	120	200	2	6	2,3,3	2,3,3
GROUT	K,2-5	6	120	200	2	3	2,3,3	2,3,3
HOSFORD	6-8	1	in class	200	4	7	in class	in class
HUMBOLT	K-1	1	in class	150	4	na	in class	in class
HUMBOLT	4-5	5	150	300	3	8	1,2,1	1,1,3
IRVINGTON	K-5	2	200	150	2	5	2,4,3	2,4,3
IRVINGTON	3	1	40	150	4	5	in class	in class
JAMES JOH	6-8	1	var	250	4	7	in class	in class
KELLOGG	6-8	6	90-120	225	3	10	3,4,2	3,4,3
KELLY	1-8	2	150	300	4	5	1,3,4	2,4,2
KELLY	1-8	4,5	150	300	2	6	1,4,3	2,4,2
KELLY	1-8	1	in class	300	4	10	in class	in class
KENTON	1-5	6	100	200	2	5	2,4,2	2,4,2
KING	3-5	1.2.3	80	225-375	3	8	3,4,2	3,4,2
LANE	1-2	1	in class	250	4	10	in class	in class
LANE	3-6	6	90	250	3	6	2,4,3	2,4,2
LENT	2-5	2	150	150-225	4	6	1,4,2	1,4,3
MARYSVILL	4-5	2	225	225	3	8	3,4,3	3,4,3
MEEK	1-5	6	150	300	3	6	2,4,2	1,4,3
OCKLEY GR	6-8	3	112-225	225	3	7	4,4,3	4,4,3
PENINSULA	1-8	6	150	250	3	7	2,4,3	4,4,3
PORTSMOUT	5-8	2	210	210	3	10	3,3,2	2,3,3
PORTSMOUT	5-8	1	in class	210	4	8	in class	in class
RICHMOND	1-5	2	120	250-300	3	6	3,4,4	3,4,4
RIGLER	3	2	150	200	2	7	4,4,4	4,4,4
RIGLER	4-5	1	in class	200	4	7	in class	in class
ROSE CITY	3-5	2	120			4		
SABIN	K-5	2	150			10		

TABLE 2(cont)

SCOTT								
SELLWOOD	5-8	6	175	175	3	7	2,3,3	2,3,3
SITTON	1,3,7	1	in class	200	4	15	in class	in class
SUNNYSIDE	1-5	2	75	150	2	6	2,4,3	3,3,4
TUBMAN	6-8	6	100	100	3	7	4,4,1	4,4,1
VERNON	K-5	1	in class	240-300	4	10	in class	in class
VESTAL	3-6	6	120	na	3	6	1,3,1	3,4,4
WHITAKER	6-8	6	100-200	200	3	8	2,3,2	2,3,2
WHITMAN	5	2	60	200	2	4	2,4,2	1,2,4
WHITMAN	K,6	1	in class	in class	4	13	in class	in class
WILCOX	1-4	2	150-200	3	3	6	2.2.2	2,3,2
WOODLAWN	3	1	in class	235	4	10	in class	in class
WOODLAWN	1-5	2	150-175	150-175	4	15	3,4,4	3,4,4
WOODMERE	1-2	2	150	150	4	6	3,4,2	3,4,2
WOODMERE	3-5	6	200	200	3	6	3,4,2	3,4,2
YOUNGSON	1-5	2	40	200	3	5	2,4,3	2.4.3

3. SUMMARY OF ACHIEVEMENT TEST RESULTS

Achievement information for each of the 66 Chapter I public and nonpublic schools is shown in the last section of this report: Individual School Data for Grade 1 and State Chapter I Reporting Forms. Section 3., Summary of Achievement Test Results, is a summary of the achievement test data for the Portland Public Schools Chapter I project as follows:

3.a Public School Chapter I Students, Grades 1 and 2;

3.b Public School Chapter I Students, Grades 3 through 8 and 9 through 12; and

3.c Nonpublic School Chapter I Students, Grades 1 and 2 and 4 through 8 (grade 3 students are not included due to the nature of the testing schedule and the test being used for evaluation).

Achievement scores for grades 1 and 2 in which a nationally standardized test was used are expressed in terms of Normal Curve Equivalents (NCE). The NCE scale is an equal interval, standard score scale transformed to match the percentile scale at the 1st, 50th, and 99th percentile points. It has a range of 1 to 99, a mean of 50, and a standard deviation of 21.06. Scores for grades 3 through 12 in which the Portland Achievement Levels Tests were used are expressed in terms of RIT scores. These scores are derived from an equal interval, single-growth scale underlying the Portland tests. RIT scores are converted to NCEs and reported here also. These latter scores make it possible to compare and aggregate scores for use at the state and national levels. Interpretations of the results include comparisons of Chapter I students with non-Chapter I students in the District and with all District students where appropriate data were available. NCE scores make it possible to compare achievements with the national norming populations and with Chapter I students in the State.

3.a Public School Chapter I Students, Grades 1 and 2

Chapter I program objectives for Grades 1 and 2 are as follows:

Grade 1 Objective: Given special assistance, 50 percent of the pupils in grade one will show a mean posttest score in reading equal to the grade equivalent of 1.3 as measured by the Iowa Test Basic Skills.

Grade 2 Objective: Given the special assistance provided by this project, the pupils for services in the subject area of reading in grade 2 will display a normal curve equivalent (NCE) gain of six (6) as measured by the Comprehensive Test of Basic Skills.

The underlying scale for the ITBS is the grade equivalent score. The expected performance level for grade one students was determined by selecting the grade equivalent score for the Iowa Test of Basic Skills (ITBS) at approximately the eligibility criteria for Chapter I students, i.e., the 25th percentile on ITBS Level 6 Test. This performance level was chosen because Portland Chapter I students in grade 2 have historically performed at or above this level. Therefore, the grade equivalent score at the 25th percentile level is the expected performance level for grade one Chapter I students (i.e., grade equivalent score of 1.3 in Spring).

Thirty-eight (38) schools tested their grade 1 Chapter I students (N = 678) using Level 6 of the ITBS. Table 3 shows that the District program met the stated objective. It should be noted that although gains were made, there is still further growth required of many students before they will be functionally literate and scoring at the national average of the 50th percentile.

An examination of the mean NCE scores for individual schools showed that scores for some were high enough that, perhaps, some students should not have been selected for Chapter I services. While it is not unreasonable to provide services for some of these students, schools should be cautious not to overlook students with greater needs or to dilute the services necessary for those who may need considerably more.

TABLE 3
IOWA TEST OF BASIC SKILLS*
SPRING 1986, CHAPTER I PUBLIC SCHOOLS, GRADE 1
POSTTEST SCORES
N = 678

Expected Average Raw Score (Max: 70)	36
Achieved Average Raw Score (Max: 70)	34
Expected Normal Curve Equivalent	34
Achieved Normal Curve Equivalent	34
Expected Average Grade Equivalent	1.3
Achieved Average Grade Equivalent	1.3
Expected Percentile	25 (50 percent of students)
Achieved Percentile	25 (50 percent of students)

*ITBS, Form 7, Level 6, 1978 edition

Table 4 details the pretest and posttest means for 543 grade 2 Chapter I students in 38 public schools who had matched Fall and Spring scores. Students were administered ITBS Level 6 Test in the fall and Primary Level 7 in the spring. It was not necessary to convert out of level scores to in level because of the underlying grade equivalent scale. The results are expressed in mean grade equivalent scores derived from mean raw scores and normal curve equivalents (NCEs).

TABLE 4
IOWA TEST OF BASIC SKILLS[1]
CHAPTER I PUBLIC SCHOOLS, GRADE 2
FALL 1985 - SPRING 1986[2]
N = 543

	N	Average Grade Equivalent	Normal Curve Equivalent (NCE)
Fall Primary Level 6	543	1.5	33.0
Spring Primary Level 7	543	2.1	38.0
Gain		0.6	5.0

[1]ITBS, Form 7, Levels 6 and 7 as pre-post tests
[2]All scores stated based on ITBS underlying grade equivalent scores and publisher's norms.

The objective for grade 2 states that students will achieve a Normal Curve Equivalent (NCE) gain of 6 as measured by the Iowa Test of Basic Skills from fall to spring.

Table 3 shows that this objective was not achieved. Gains were approximately the same as the previous year, 1984-85, and noticeably smaller than the gains in 1983-84.

Table 5 displays the expected and achieved test scores for 10 nonpublic schools, grade one Chapter I programs. Included are average raw scores, grade equivalents, percentiles, and normal curve equivalents. All nonpublic school grade one students were administered Early Primary Level 6 of the ITBS, Form 7.

TABLE 5
IOWA TEST OF BASIC SKILLS*
SPRING 1986, CHAPTER I NONPUBLIC SCHOOLS, GRADE 1
POSTTEST SCORES
N = 27

Expected Average Raw Score	36
Achieved Average Raw Score	38
Expected Grade Equivalent Score	1.3
Achieved Grade Equivalent Score	1.4
Expected Percentile	25
Achieved Percentile	27
Expected Normal Curve Equivalent	34
Achieved Normal Curve Equivalent	37

*ITBS, Form 7, Level 6, 1978

The achieved scores are higher than the expected scores. The scores, which are slightly higher than those of the public schools, could reflect a difference in the population of students served at this grade level in public and nonpublic schools as well as the small sample size.

Table 6 shows the scores of the 30 second grade, Chapter I nonpublic school students who were administered ITBS Form 7 Primary Level 6 as pretests in Fall 1985 and Primary Level 7 as the posttest in the Spring 1986. Results are reported in mean grade equivalent scores and normal curve equivalents. The objective stated earlier indicated that a gain of 6.00 NCEs was expected between the Fall and Spring administrations of the tests. The average gain was 8.0 NCEs, indicating that the objective was met. This gain is slightly larger than that for the PPS Chapter I grade 2 students, but smaller than the average gain of about 10.00 NCEs usually attained by the state.

TABLE 6
IOWA TEST OF BASIC SKILLS*
CHAPTER I NONPUBLIC SCHOOLS, GRADE 2
PRETEST AND POSTTEST MEANS**

	N	Grade Equivalent Score	Normal Curve Equivalent (NCE)
Pretest Early Primary Level 6	30	1.5	33.0
Posttest Primary Level 7	30	2.3	41.0
Gain		0.8	8.0

*ITBS, Form S, Levels B and C
**Underlying scale is the grade equivalent score obtained by converting the mean raw score.

3b. Public School Chapter I Students -- Grades 3 to 8 and 9 to 12

In the Portland Public Schools, the Portland Achievement Levels Tests (PALT) in reading, math, and language usage are administered District-wide in the fall and spring to all students in grades 3 through 8. At the high school level only Chapter I students are tested in fall and spring with most schools using the PALT.

National norms are not established for the PALT. However, tables to convert RIT scores obtained from the tests to NCE for grades 3 through 8 were products of a study sponsored jointly by the Oregon Department of Education and the U.S. Office of Education[1]. The development of similar conversion tables for internal use with grades 9 through 12 was completed in Spring 1981 by the Research and Evaluation Department of the Portland Public Schools. Results in terms of RIT and NCE scores have been reported for reading and math for all Chapter I students in grades 3 through 12 since 1981.

Tables of mean reading and math scores are shown first using RIT scores. Tables showing the RIT scores converted to NCE scores follow. In compiling the data, only students with both fall and a spring score were included; therefore, the Ns are smaller than those reported as served by the project. Scores for non-Chapter I and for all grade 3 through 8 students (i.e., Chapter I plus non-Chapter I) in the District are also shown for comparison purposes.

The Fall and Spring mean RIT scores of Chapter I, non-Chapter I and Total District for reading and math are shown in Table 7. As expected, due to selection, the scores of Chapter I students are the lowest of the three groups. A common criterion used by schools for selecting Chapter I students besides teacher judgment, is a previous Spring RIT score equal to a P-score of 43 or less. This score is about the 24th percentile, or an NCE of about 35. Fall scores of Chapter I students are at or below this level, indicating that those selected were lower performing students. Scores of grade 3 students are slightly above the criterion, perhaps reflecting the fact that other measures are used in selecting grade 3 students the previous Spring because District-wide testing does not include grade 2. (The P-score scale is a standard score scale based only on Portland District students. It has a mean of 50 and a standard deviation of 10.)

Without exception, achievement scores in Table 7 show that Chapter I students made larger gains than non-Chapter I and total District students in both reading and math. With few exceptions, over the last seven years the gains of Chapter I students have been larger than the average District gains in every grade in reading. In math, Chapter I gains have more frequently been larger, but not quite as consistently as in reading. Thus, the trend of higher Chapter I gains is maintained for the 1985-86 school year.

Comparisons of the Chapter I student gains for 1985-86 with those of previous years showed the gains for last year were quite satisfactory. Except for grade 3 reading, the gains were larger than the average of those of the last six years. On the other hand, District gains for 1985-86 were equal to or slightly less than the average of the last six years.

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[1]Holmes, Susan E., ESEA Title I Linking Project, Final Report, Oregon Department of Education, January, 1980.

TABLE 7
FALL 1985 AND SPRING 1986 READING AND MATH SCORES (RIT MEAN)
FOR CHAPTER I, NON-CHAPTER I, AND TOTAL DISTRICT STUDENTS
GRADES 3 THROUGH 12*

		READING				MATH			
GRADE	GROUP	N	FALL	SPRING	GAIN	N	FALL	SPRING	GAIN
	Chapter I	484	171.67	180.09	8.42	337	171.93	186.68	14.75
3	Non-Chapter I	2779	194.85	199.99	5.14	2949	188.89	200.07	11.18
	Total District	3263	191.41	197.04	5.63	3286	187.15	198.70	11.55
	Chapter I	388	181.28	188.94	7.66	342	184.35	194.09	9.74
4	Non-Chapter I	2581	200.70	207.31	6.61	2645	200.67	208.82	8.15
	Total District	2969	198.16	204.91	6.75	2987	198.80	207.13	8.33
	Chapter I	357	186.28	193.23	6.95	349	191.21	198.97	7.76
5	Non-Chapter I	2753	207.88	212.40	4.52	2778	208.87	215.78	6.91
	Total District	3110	205.40	210.20	4.80	3127	206.90	213.90	7.00
	Chapter I	269	192.66	199.22	6.56	287	197.13	204.80	7.67
6	Non-Chapter I	2658	212.03	216.40	4.37	2658	213.84	220.87	7.03
	Total District	2927	210.25	214.82	4.57	2945	212.21	219.30	7.09
	Chapter I	232	199.08	204.77	5.69	221	202.55	208.66	6.11
7	Non-Chapter I	2732	216.83	220.73	3.90	2765	220.82	226.37	5.55
	Total District	2964	215.44	219.48	4.04	2986	219.47	225.06	5.59
	Chapter I	190	199.86	205.66	6.07	239	207.61	214.14	6.53
8	Non-Chapter I	2751	222.55	225.86	3.31	2715	228.14	232.17	4.03
	Total District	2941	221.08	224.57	3.49	2954	226.48	230.71	4.23
9	Chapter I	152	203.94	210.66	6.72	177	207.20	213.73	6.53
10	Chapter I	67	205.88	210.73	4.85	41	203.00	209.71	6.71
11	Chapter I	37	206.65	210.54	3.89	8	206.38	213.88	7.50
12	Chapter I	28	201.89	209.68	7.79	13	205.92	212.85	6.93

*No District-wide testing in Grades 9 through 12

TABLE 8
FALL 1985 AND SPRING 1986 READING AND MATH SCORES (NCE MEAN)
FOR CHAPTER I, NON-CHAPTER I, AND TOTAL DISTRICT STUDENTS
GRADES 3 THROUGH 12*

		READING				MATH			
GRADE	GROUP	N	FALL	SPRING	GAIN	N	FALL	SPRING	GAIN
3	Chapter I	484	36.47	35.97	-0.50	337	37.39	43.43	6.04
	Non-Chapter I	2779	63.97	60.02	-3.95	2949	67.20	61.77	-5.43
	Total District	3263	59.48	56.18	-3.30	3286	64.22	60.18	-4.04
4	Chapter I	388	32.57	39.02	6.45	342	30.86	39.12	8.26
	Non-Chapter I	2581	61.18	59.64	-1.54	2645	62.16	62.65	0.49
	Total District	2969	57.44	56.88	-0.56	2987	58.58	59.86	1.28
5	Chapter I	357	29.39	36.65	7.26	349	26.84	35.97	9.13
	Non-Chapter I	2753	61.98	61.50	-0.48	2778	60.67	61.19	0.52
	Total District	3110	58.60	58.61	0.01	3127	57.43	58.29	0.86
6	Chapter I	269	30.35	37.15	6.80	287	22.03	34.16	12.13
	Non-Chapter I	2658	59.90	60.14	0.24	2658	57.59	60.57	2.98
	Total District	2927	57.01	57.89	0.88	2945	54.13	57.97	3.84
7	Chapter I	232	29.06	38.36	9.30	221	14.91	30.25	15.34
	Non-Chapter I	2732	60.56	60.89	0.33	2765	56.79	58.80	2.01
	Total District	2964	58.36	59.50	1.14	2986	54.60	56.77	2.17
8	Chapter I	190	11.66	26.98	15.32	239	16.68	31.24	14.56
	Non-Chapter I	2751	61.18	61.34	0.16	2715	59.74	60.18	0.44
	Total District	2941	58.73	59.65	0.92	2954	57.15	58.38	1.23
9	Chapter I	152	21.61	34.12	12.51	177	15.11	28.67	13.56
10	Chapter I	67	2.46	17.14	14.68	41	1.00	6.75	5.75
11	Chapter I	37	1.10	11.87	10.77	8	1.00	15.98	14.98
12	Chapter I	28	1.00	10.72	9.72	13	1.00	14.44	13.44

*No District-wide testing in Grades 9 through 12

Reading and math RIT scores in Table 7 were converted to the appropriate NCEs by using the publisher's norms. The NCEs in Table 8 can be compared to those of previous years and to scores for national and state populations.

As expected, the Fall and Spring mean NCE scores of the Chapter I students in each grade are lower than those of the comparison groups in both reading and math. The gains of Chapter I students in all grades and in both subjects, however, are larger than those of the comparison groups and nearly all larger than zero. Like percentiles, a gain of zero would indicate that the students made gains comparable to that for the norming population; therefore, the positive gains for Chapter I, and also for District students as well, are interpreted as being larger than those made by the norming group. Statewide NCE gains of Chapter I students in grades 3 to 8 the last few years range from about 6 to 8 in reading and about 7 to 9 in math. Except for grade 3, the gains of the District Chapter I students are as large or larger than the state averages of the previous years.

It should be noted that where the Fall NCE scores are numerically lower (e.g., 25 NCEs or less), the gains are larger than when the Fall scores are higher. The larger gains of Chapter I students in grades 6 through 8 may be related to the lower Fall scores.

It is interesting to note again this year that the NCE scores for the Total District are above 50.00, which is taken as the average of the national norming population. Except for grade 3, the average gains are nearly all positive, indicating important gains by District students.

The results for grades 9 to 12 are difficult to interpret. There are fewer Chapter I students for whom there are scores in grades 10 to 12, especially in math, and they represent a disproportionate number of the lowest performing students. Scores for high school students District-wide are not available for comparison, and also RIT scores converted to NCE scores are not useful for interpreting gains in terms of national norms because the scores in the higher grades were too low.

RIT and NCE results for high school students both show gains that are generally smaller than those for students in grades 3 to 8. Statewide NCE gains of high school students are generally smaller than those for grades 3 to 8 also. In general, the Fall NCE scores of the grade 9 students are much like those for the other grades and much like those for the state population. Scores for students in grades 10 to 12 show appreciable gains, but they may be spuriously high because the fall scores are so low.

The value of RIT scores over NCE scores in evaluating Chapter I high school performances is apparent in grades 10 to 12. Table 8 shows that the mean RIT scores of these students were too low to be converted to meaningful NCE scores. Portland tests are criterion referenced, not norm referenced and low performing high school students are assigned test levels appropriate for their performances. These levels may be much lower than those appropriate for their grade levels so the low scores cannot be equated satisfactorily with NCE.

Overall, the achievements of the public school Chapter I students for 1985-86 are satisfactory when compared to available data. The gains this past year were equal to, or larger than, gains made in previous years and equal to, or larger than, the gains of comparison groups locally, statewide, and nationally.

3.c Nonpublic School Chapter I Students -- Grades 4 to 8

Portland Achievement Levels Tests in reading and math were all administered in Spring 1985 and again in Spring 1986 to students in the District's Chapter I nonpublic schools. Results are reported for students in grades 4 through 8 with Spring 1985 scores obtained when the students were in grades 3 through 7. In interpreting the results, some comparisons are made with those for the District public schools where such comparisons are appropriate. However, other comparisons are made with State results because comparable data on a spring to spring basis for the District students are not available.

The number of students in each grade for whom both pretest and posttest scores are available is small, so interpretations are made with caution and only by considering all data together or by grade groups and subjects.

Reading and math results expressed in terms of RIT scores are shown in Table 9. Spring 1985, or pretest scores, tend to be lower than the Spring scores of public school students in the corresponding grades, so the students appear to be selected appropriately for Chapter I services. The reading gains of the nonpublic school Chapter I students tend to be equal to or slightly larger than those estimated for the District so the reading achievements appear to be satisfactory.

Like reading, the math RIT scores for Spring 1985 are also appreciably lower than corresponding scores for District students indicating that math students were appropriately selected for services in the Chapter I program. The gains of students in the lower grades appears to be a little higher than those of students in the upper grades; however, all gains appear to be satisfactory.
Table 10 shows the RIT scores converted to NCE scores. The scores for each grade are lower than grade level norms of 50, and about the same as District Chapter I averages. The spring to spring gains for each grade are generally larger than national and State Chapter I averages of the last few years in both reading and math for students on the same testing cycle. On this basis, the achievements of the nonpublic school Chapter I students are considered satisfactory.

TABLE 9
SPRING READING AND MATH SCORES (RIT) FOR NONPUBLIC SCHOOL
CHAPTER I STUDENTS -- GRADES 4 THROUGH 8

	Reading				Math			
Grade	N	1985	1986	Gain	N	1984	1985	Gain
4	12	182.83	193.08	10.25	3	182.33	197.00	14.67
5	13	189.23	195.92	6.69	10	193.10	201.70	8.60
6	12	195.58	201.75	6.17	9	199.44	207.00	7.56
7	2	198.00	209.00	11.00	3	208.00	213.00	5.00
8	8	198.75	206.25	7.50	8	208.50	213.75	5.25

TABLE 10
SPRING READING AND MATH SCORES (NCE) FOR NONPUBLIC SCHOOL
CHAPTER I STUDENTS -- GRADES 4 THROUGH 8

	Reading				Math			
Grade	N	1985	1986	Gain	N	1985	1986	Gain
4	12	36.10	43.92	7.82	3	25.34	43.52	18.18
5	13	34.66	40.05	5.39	10	31.98	39.77	7.79
6	12	35.28	40.48	5.20	9	27.70	37.51	9.81
7	2	25.76	45.05	19.29	3	31.53	38.54	7.01
8	8	7.83	27.75	19.92	8	19.44	30.41	10.97

4. SPECIAL CHAPTER I STUDY OF EFFECTIVE PRACTICES

Investigations of practices leading to greater achievements of Chapter I students have been outlined. Earlier, longitudinal and sustained effect studies which followed students for three consecutive years strongly indicated the effect of the quality of instruction that students received in regular classrooms as well as Chapter I. Subsequent studies of exemplary and special packaged programs implemented in District schools showed the complexity of Chapter I schools and Chapter I programs. Specifically, the results achieved by students in these programs were not significantly different from those achieved by students in programs designed within District schools. Statistically speaking, there were no noticeable differences in basic skills achievement, mean gains and variances among schools with exemplary programs, special programs, and programs designed independently by the schools. Similarly, correlational studies of various characteristics of school programs, e.g., student to teacher ratio, minutes per week, size of program, showed no consistently significant effects on basic skills achievement.

There are many publications on effective practices; however, the glowing weakness among them is the lack of operational definitions and objective measurement of the variables identified as being effective. Such definitions and measurement are deemed necessary to enable other investigators to identify practices in a reliable fashion and subject them to scientific scrutiny. The early findings from our research and review of considerable literature, indicated to us that a theoretical approach is necessary if we are to identify practices that are operationally defined, measured, and their effects determined to be predictable.

The Portland Public Schools special Chapter I study utilizes a theoretical framework in an attempt to measure selected variables (effective practices), and their relationship with other critical variables. The approach involves hypotheses of relationships among variables and the prediction of outcomes.

Research literature relevant to the theory has been reviewed and classroom observations were made following which a tentative theory was formulated embodying many of the postulated effective practices. Several attempts using classroom observations and interaction analysis approach were made to measure some of the variables identified in the theory. These attempts indicated that investigations involving specific interactions were extremely difficult and that measurement based upon behaviors classified fairly specifically would not be fruitful unless we were prepared to make such observations over extended periods of time in various contexts. Our assumption was, and still is, that implementation is facilitated more when practices are described as specific interactions than when they are described in more generic form. The issue we face now is finding the level of specificity necessary to meet our requirements of definition, measurement, and predictability.

5. SUMMARY AND COMMENTS

During the 1985-86 school year, Portland Chapter I schools implemented three kinds of programs for about 7,500 Chapter I students: HOSTS, Prescription Learning, and Garden Variety or individual school-developed programs. Summative evaluation of the Portland project showed satisfactory progress of the students overall in reading and math during the school year. Separate evaluations of the three kinds of programs over the previous three years generally showed no appreciable differences among them, so these evaluations were discontinued. The average gains of each Chapter I school program continues to be equal to or larger than the average of the District for about 70 percent or more of the schools. Achievements for the year appear to be satisfactory.

Ongoing research within the District Chapter I project is now focused on the total school experiences of Chapter I students. It is postulated that there are a limited number of critical elements or variables in educational programs which account for most student achievement and that the extent of the effect is related to the extent the element or variable is present or absent in the students' learning environment.

6. INDIVIDUAL SCHOOL DATA FOR GRADE 1 AND STATE CHAPTER 1 REPORTING FORMS

(This section of the report is optional, and may be deleted for some distribution. It consists of tables of individual school results for Grade 1 Chapter I students and State Chapter I reporting forms. State forms include one each for reporting achievements in reading and math for individual schools. The results presented earlier in Section 3 are compilations made from individual school data.)